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33. A method of using composite material, comprising :

- a supporting material in the form of sheet or roll constituted by one of the following materials:
- a reconstructed leather material;
- a covering surface layer including a polyethylene film;
- the supporting material being directly coupled to the film; and
- the composite being for producing a product being selectively footwear sole and/or heel and/or vamp and/or toe, and/or suitcase elements and/or spectacle-cases and/or briefcases, and/or chair or sofa elements or structures or furniture or furnishing elements, and including the step of forming the material into a shape to produce at least one of the products.

34. A method as claimed in claim 31 including spraying a leather scent to the material.

35. A method as claimed in claim 32 including spraying a leather scent to the material.

36. A method as claimed in claim 33 including spraying a leather scent to the material.

## REMARKS

The Applicants have carefully considered the detailed Office Action and set forth detailed responses herein. Reconsideration of the above application is respectfully requested.

The Applicants have made amendments to the claims as appropriate. In order to define the invention clearly, the Applicants amend "regenerated leather" to "reconstructed leather". This is discussed further below. It appears that perhaps a more accurate translation of the Italian word "rigenerati" used in the priority document VR96A000067 filed 19 July 1996 may be "reconstructed". Apart from that regenerated leather is a leather term, as referred to below. The Italian priority document is attached for the Examiner's convenience.

Reconstructed leather, which is also called as regenerated leather, is a material obtained by crushing and mixing old leather pieces together and then pressing the mixture to obtain a new sheet of reconstructed leather. The reconstructed leather is defined as "material composed of collagen fibers, obtained from macerated hide pieces, which have been reconstructed into a fibrous material" (see Eurohides Schoolstraat 12 8310 Brugge (Asselbroek) Belgium [www.eurohides.com](http://www.eurohides.com)) (Exhibit A). With the above definition and general understanding it is clear that the term "reconstructed leather" can be clearly understood by a person skilled in the art reading the application.

The Applicants have also found some internet documents dealing with reconstructed leather or regenerated leather from internet: 1) Characteristics of regenerated leather, [user.cityline.ru/~vknalves/technology\\_e.htm](http://user.cityline.ru/~vknalves/technology_e.htm) (**Exhibit -B**); 2) Regenerated leather shoulder bag, [shop.store.yahoo.com/danieljamesco/recreatshould1.html](http://shop.store.yahoo.com/danieljamesco/recreatshould1.html) (**Exhibit C**); 3) Market of Regenerated leather, [www.tdctrade.com/mne/footwear/footwear020601.htm](http://www.tdctrade.com/mne/footwear/footwear020601.htm) (**Exhibit D**).

There were certain rejections under 35 U.S.C. 112, and these are overcome by minor amendments made to the claims. The term "like" of claim 29 is cancelled to define the scope of the claim clearly. Also

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the term "dye stuff" of claim 28 is amend to "dyestuff", which is a technical term well known to the art, and which also occurs in the patent of Nishimure (3,958,057, col. 4, line 6).

This invention relates to treating leather and reconstructed (regenerated) leather by coating it with polyethylene. The main rejections on the merits relates to two references (Schwartz and Irion) which refer to synthetic leather. This is a very different substrate. Synthetic leather can be coated with polyurethane. This is a very different coating chemical.

The present invention relates to reconstructed leather material or natural leather, which are natural products derived from animal hide. On the contrary, Schwartz (3,741,844) and Irion (2,714,571) only relate to synthetic materials, namely the substrate is a polyurethane foam and fibrous web.

As is well known to those skilled in the art, the properties of leather or reconstructed leather are clearly different to artificial leather or synthetic leather.

Artificial leather is also called as synthetic leather, leatherette, or leatheroid. In the glossary leatherette is defined as "a manufactured product which imitates leather" (Exhibit A). Artificial leather is made of synthetic materials, such as a polymer, fabric, or nonwoven material.

It should be clear that leather or reconstructed leather as used in the claims of this patent application is a natural product, and not an artificial product, such as artificial leather. It is well known that the properties and appearances of reconstructed leathers are clearly different from those of artificial leathers. Reconstructed leathers are composed of natural collagen fibers, which possess significantly different properties from synthetic polymers. Therefore, the coating methods of the polymers are also clearly different due to the difference of their properties. Furthermore, the reconstructed leather or natural leather possesses much better high temperature resistance and chemical resistance compared with that of artificial leathers.

Simply stated there is no disclosure, teaching or suggestion at all that the methods of Schwartz (3,741,844) and Irion (2,714,571) can be carried out on leather or reconstructed leather.

**1. The objection over Schwartz (3,741,844) in view of Taylor (3,971,839):**

Schwartz discloses a polyurethane foam coated with film or sheet of polyolefin, wherein the polyolefin film may be an embossed polyethylene film. However, all the technical solutions of Schwartz relate to polyurethane foam. Schwartz merely mentions that the polymer may be extrusion coated to any conventional substrates such as metal foil, plastics, foam, paper, cellophane, leather, etc. A leather substrate is merely mentioned as a possibility, and respectfully by review of Schwartz it appears that it is concerned with a synthetic product and process. There is no specific embodiment for coating of other substrates. Actually, Schwartz did not complete the invention of coating of other substrates such as leather, since the properties of these substrates are clearly different. The methods of coating are clearly different. No suggestion at all is given that the method can be carried out on a natural leather or reconstructed leather. The substrate and the coating materials are different to those claimed.

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There is a significant inventive advance in the present invention. It is for the method to be carried out on leather or reconstructed leather. This was not remotely suggested in Schwartz.

The Applicants have found that the application of a polyethylene coating to a reconstructed leather sheet greatly improves the properties and the appearance of reconstructed leather. It is well known to those skilled in the art that the properties and appearance of reconstructed leather are not as good as natural leather though it is much cheaper than natural product. Tests have shown that if the polyethylene coating is provided with a leather scent, it is almost impossible to distinguish the reconstructed leather with the polyethylene coating from a natural leather sheet without a coating.

The present invention makes significant progress compared with prior art. It would be counter-intuitive to coat natural leather with a coating such as polyethylene. One would be taking a high quality natural product, and seemingly degrading it. Yet the application of polyethylene to the natural product - leather and reconstructed leather has brought about a significant advance in the leather industry. Polyethylene coated reconstituted leather by the invention is now made available as a superior leather product, which previously was not feasible or possible.

Natural leather was previously coated with polyurethane, in some instance, and this was for the purposes of conferring higher water resistance, a soft and smooth sensation to the touch as well as homogeneous appearance. It included the disadvantages of not being resistant to scrapes or scratches and once deteriorated, the polyurethane surface appear very rough and irregular. Therefore, here also the invented polyethylene coated leather has advantages of being very resistant to mechanical stress as well as to water, with the high valuable appearance of the natural leather.

Synthetic leather products, which are very different, have been formed in practice with polyvinyl chloride and polyurethane, but not in the Applicant's experience with polyethylene. Accordingly, the advance of using polyethylene to enhance the natural based leather product is significant.

**2. The objection over Irion (2,714,571) in view of Holtzman (3,866,554) or Lockwood (3,641,603):**

Irion discloses bonding an embossed polyethylene film to fibrous web. It is a synthetic product. As discussed above, the fibrous web is a substrate clearly different from natural leather in property. There is a significant inventive advance in the invented method as carried out on leather or reconstructed leather, not synthetic leather. This is not remotely suggested in Irion.

US Patent No. 3,551,830 disclosed a natural leather or synthetic leather that is coated with the polymer consisting of an isocyanate terminated polyurethane, a vinyl chloride polymer and a reactive polysiloxane. US Patent No. 3,535,183 disclosed a solid surface coated with a polymer whose cross-linking is catalyzed by hydrogen ions and a vaporizable base. As is well known to those skilled in the art, the polymers of 3,551,830 and 3,535,183 are significantly different from polyethylene of the present invention. The coating principles and methods of the polymers are also different. Therefore the inventive works are needed if polyethylene is used in the method.

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It is well known to those skilled in the art that the nice appearance of leather will be spoiled if the polyethylene film is coated. However, the excellent appearance of leather could be obtained by the method of the present invention. It is a great advance in the art. Therefore the method of the present invention involves inventive step, and it is believed that the claims now submitted are allowable.

Respectfully, and contrary to the opinion of the Examiner, a skilled person, an expert in leather working, would be forced away from the technical solution of the present application, since it would hide or destroy all the good properties of the leather article itself.

For the benefit of the Examiner, the Applicants provide samples of the present invention.

Sample 3' is a reconstructed leather; Sample 3 is a reconstructed leather coated with polyethylene film;

Sample 4' is a reconstructed leather; Sample 4 is a reconstructed leather coated with embossed polyethylene film and sprayed with a leather like scent; and

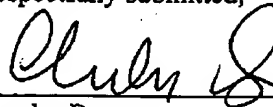
Sample 5' is a natural leather; Sample 5 is a natural leather coated with polyethylene film.

Samples 6'-6'''' are samples of synthetic leather products which are a fibrous substance on a textile backing coated with different polymers. None of the polymers are polyethylene. Sample 6' is a polyurethane nubuck material on a textile backing. Sample 6' is a pvc nubuck material on a textile material. Sample 6''' is a polyurethane suede material on a textile material and sample 6'''' is a non-polyethylene polymer on a textile surface. As will be readily seen the products of Samples 6'-6'''' are totally different products - a substrate and a non-polyethylene coating - from those of Samples 3, 3', 4, 4', 5, 5'.

Applicants also submit a declaration of the Applicant, Gabriele Valente, showing commercial success with the product of the invention. This shows even more so that without advertising the invented product has made a significant impact on the market.

In view of the above, it is submitted that this application is now in good order for allowance, and such early action is respectfully solicited. Should matters remain which the Examiner believes could be resolved in a telephone interview, the Examiner is requested to telephone the Applicant's undersigned attorney.

Respectfully submitted,



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## ADDENDUM PAGES

VERSION MARKED TO REFLECT CHANGESI. CHANGES IN THE CLAIMS

8. A method of using a composite material, comprising:

a supporting material in the form of sheet or roll constituted by a mixture of a [regenerated] reconstructed leather material or natural leather an embossed covering surface layer including a film in polyethylene, to provide a composite material of only two materials, the materials being the supporting material and the polyethylene film; and

the composite being for producing a product being selectively footwear soles and/or heels and/or vamps and/or toes, and/or suitcase elements spectacle-cases and/or briefcases, and/or chairs or sofas elements or structures or furniture or furnishing elements, and including the step of forming the material into a shape to produce at least one of the products.

13. A method of using composite material, comprising:

a supporting material in the form of sheet or roll constituted by one of the following materials

a [regenerated] reconstructed leather material or natural leather;

a covering surface layer including a polyethylene film;

there being no foam between the supporting material and film; and

the composite being for producing a product being selectively footwear soles and/or heels and/or vamps and/or toes, and/or suitcase elements spectacle-cases and/or briefcases, and/or chairs or sofas elements or structures or furniture or furnishing elements, and including the step of forming the material into a shape to produce at least one of the products.

18. A method of using composite material, comprising :

a supporting material in the form of sheet or roll constituted by one of the following materials:

a [regenerated] reconstructed leather material or natural leather;

a covering surface layer including a polyethylene film;

the supporting material being directly coupled to the film; and

the composite being for producing a product being selectively footwear sole and/or heel and/or vamp and/or toe, and/or suitcase elements and/or spectacle-cases and/or briefcases, and/or chair or sofa elements or structures or furniture or furnishing elements, and including the step of forming the material into a shape to produce at least one of the products.

28. A method as claimed in claim 8 including interposing a [dye stuff] dyestuff layer between the film layer and the leather.

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29. A method as claimed in claim 8 including spraying a leather [like] scent to the material.

31. A method of using a composite material, comprising :

a supporting material in the form of sheet or roll constituted by a mixture of a [regenerated] reconstructed leather material; an embossed covering surface layer including a film in polyethylene, to provide a composite material of only two materials, the materials being the supporting material and the polyethylene film; and

the composite being for producing a product being selectively footwear soles and/or heels and/or vamps and/or toes, and/or suitcase elements spectacle-cases and/or briefcases, and/or chairs or sofas elements or structures or furniture or furnishing elements, and including the step of forming the material into a shape to produce at least one of the products.

32. A method of using composite material, comprising:

a supporting material in the form of sheet or roll constituted by one of the following materials:

a [regenerated] reconstructed leather material;

a covering surface layer including a polyethylene film;

there being no foam between the supporting material and film; and

the composite being for producing a product being selectively footwear soles and/or heels and/or vamps and/or toes, and/or suitcase elements spectacle-cases and/or briefcases, and/or chairs or sofas elements or structures or furniture or furnishing elements, and including the step of forming the material into a shape to produce at least one of the products.

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a supporting material in the form of sheet or roll constituted by one of the following materials:

a [regenerated] reconstructed leather material;

a covering surface layer including a polyethylene film;

the supporting material being directly coupled to the film; and

the composite being for producing a product being selectively footwear sole and/or heel and/or vamp and/or toe, and/or suitcase elements and/or spectacle-cases and/or briefcases, and/or chair or sofa elements or structures or furniture or furnishing elements, and including the step of forming the material into a shape to produce at least one of the products.

34. A method as claimed in claim 31 including spraying a leather [like] scent to the material.

35. A method as claimed in claim 32 including spraying a leather [like] scent to the material.

36. A method as claimed in claim 33 including spraying a leather [like] scent to the material.